AMENDMENTS TO THE SPECIFICATION

➢ *Please replace the paragraph spanning pages 18-19, beginning at line 30 on page 18 and ending at line 8 on page 19, with the following text:*

An "SH3" or "Src Homology 3" domain is a protein domain of generally about 60 amino acid residues first identified as a conserved sequence in the non-catalytic part of several cytoplasmic protein tyrosine kinases (e.g., Src, Abl, Lck). SH3 domains mediate assembly of specific protein complexes via binding to proline-rich peptides. Exemplary SH3 domains are represented by amino acids 137-192, 199-258, 448-505 and 832-888 of SEQ ID NO:2 and are set forth in SEQ ID Nos: 27-30. In certain embodiments, an SH3 domain interacts with a consensus sequence of RXaaXaaPXaaX6P (where X6, as defined in table 1 below, is a hydrophobic amino acid). In certain embodiments, an SH3 domain interacts with one or more of the following sequences: P(T/S)AP (SEQ ID NO: 37), PFRDY (SEQ ID NO: 38), RPEPTAP (SEQ ID NO: 39), RQGPKEP (SEQ ID NO: 40), RQGPKEPFR (SEQ ID NO: 41), RPEPTAPEE (SEQ ID NO: 42) and RPLPVAP (SEQ ID NO: 43).

➢ *Please replace the paragraph spanning pages 92-93, beginning at line 21 on page 92 and ending at line 10 on page 93, with the following text:*

- Construction of siRNA retroviral vectors:

hPOSH scrambled oligonucleotide (5'- CACACACTGCCG TCAACT GTTCAAGAGAC AGTTGACGGCAGTGTGTGTTTTTT -3' (SEQ ID NO: 44); and 5'- AATTAAAAAACACA CACTGCCGTCAACTGTC TCTTGAACAGTTGA CGGCAGTGTGTGGGCC -3' (SEQ ID NO: 45)) were annealed and cloned into the ApaI-EcoRI digested pSilencer 1.0-US (Ambion) to generate pSIL-scrambled. Subsequently, the U6-promoter and RNAi sequences were digested with BamHI, the ends filled in and the insert cloned into the OliI site in the retroviral vector, pMSVhyg (Clontech), generating pMSCVhyg-U6-scrambled. hPOSH oligonucleotide encoding RNAi against hPOSH (5'-AACAGAGGCCTTGGAAA CCTGGAAGC TTGCAGGTTT CCAAGGCCTCTGTT -3' (SEQ ID NO: 46); and 5'- GATCAACAGAG GCCTTGGAAACCTGC AAGCTTCCAGGTTTCCAA GGCCTCTGTT -3'(SEQ ID NO: 47)) were annealed and cloned into the BamHI-EcoRI site of pLIT-U6, generating pLIT-U6 hPOSH-230. pLIT-U6 is an shRNA vector containing the human U6 promoter (amplified by PCR from

human genomic DNA with the primers, 5'-GGCCCACTAGTCA AGGTCG GGCA GGAAGA- 3' (SEQ ID NO: 48) and 5'- GCCGAATT CAAAAAGGATC CGGCGATATCCGG TGTTTCGTCCTTTCCA -3' (SEQ ID NO: 49)) cloned into pLITMUS38 (New England Biolabs) digested with SpeI-EcoRI. Subsequently, the U6 promoter-hPOSH shRNA (pLIT-U6 hPOSH-230 digested with SnaBI and PvuI) was cloned into the OliI site of pMSVhyg (Clontech), generating pMSCVhyg U6-hPOSH-230.

- *Please replace the text spanning pages 94-95, starting at line 24 on page 94 and ending at line 3 on page 95, with the following text:*

Protein sequence: Corresponds to aa 53-888 of POSH (RING domain deleted) (SEQ ID NO: 50)

RTLVGSGVEELPSNILLVRLLDGIKQRPWKPGPGGGSGTNCTNALRSQSSTVANCSSKDL
QSSQGGQQPRVQSWSPPVRGIPQLPCAKALYNYEGKEPGDLKFSKGDIIILRRQVDENWY
HGEVNGIHGFFPTNFVQIIKPLPQPPPQCKALYDFEVKDKEADKDCLPFAKDDVLTVIRR
VDENWAEGMLADKIGIFPISYVEFNSAAKQLIEWDKPPVPGVDAGECSSAAAQSSTAPKH
SDTKKNTKKRHSFTSLTMANKSSQASQNRHSMEISPPVLISSSNPTAAARISELSGLSCS
APSQVHISTTGLIVTPPPSSPVTTGPSFTFPSDVPYQAALGTLNPPLPPPPLLAATVLAS
TPPGATAAAAAAGMGPRPMAGSTDQIAHLRPQTRPSVYVAIYPYTPRKEDELELRKGEMF
LVFERCQDGWFKGTSMHTSKIGVFPGNYVAPVTRAVTNASQAKVPMSTAGQTSRGVTMVS
PSTAGGPAQKLQGNGVAGSPSVVPAAVVSAAHIQTSPQAKVLLHMTGQMTVNQARNAVRT
VAAHNQERPTAAVTPIQVQNAAGLSPASVGLSHHSLASPQPAPLMPGSATHTAAISISRA
SAPLACAAAAPLTSPSITSASLEAEPSGRIVTVLPGLPTSPDSASSACGNSSATKPDKDS
KKEKKGLLKLLSGASTKRKPRVSPPASPTLEVELGSAELPLQGAVGPELPPGGGHGRAGS
CPVDGDGPVTTAVAGAALAQDAFHRKASSLDSAVPIAPPPRQACSSLGPVLNESRPVVCE
RHRVVVSYPPQSEAELELKEGDIVFVHKKREDGWFKGTLQRNGKTGLFPGSFVENI

- *Please replace the text spanning pages 95-101, starting at line 8 on page 95 and ending at line 21 on page 101, with the following text:*

Human HERPUD1 mRNA sequence - var1 (public gi: 16507801) (SEQ ID NO: 51)

AGAGACGTGAACGGTCGTTGCAGAGATTGCGGGCGGCTGAGACGCCGCCTGCCTGGCACCTAGGAGCGCA
GCGGAGCCCCGACACCGCCGCCGCCGCCATGGAGTCCGAGACCGAACCCGAGCCCGTCACGCTCCTGGTG
AAGAGCCCCAACCAGCGCCACCGCGACTTGGAGCTGAGTGGCGACCGCGGCTGGAGTGTGGGCCACCTCA
AGGCCCACCTGAGCCGCGTCTACCCCGAGCGTCCGCGTCCAGAGGACCAGAGGTTAATTTATTCTGGGAA
GCTGTTGTTGGATCACCAATGTCTCAGGGACTTGCTTCCAAAGGAAAAACGGCATGTTTTGCATCTGGTG
TGCAATGTGAAGAGTCCTTCAAAAATGCCAGAAATCAACGCCAAGGTGGCTGAATCCACAGAGGAGCCTG
CTGGTTCTAATCGGGGACAGTATCCTGAGGATTCCTCAAGTGATGGTTTAAGGCAAAGGGAAGTTCTTCG
GAACCTTTCTTCCCCTGGATGGGAAAACATCTCAAGGCATCACGTTGGGTGGTTTCCATTTAGACCGAGG
CCGGTTCAGAACTTCCCAAATGATGGTCCTCCTCCTGACGTTGTAAATCAGGACCCCAACAATAACTTAC
AGGAAGGCACTGATCCTGAAACTGAAGACCCCAACCACCTCCCTCCAGACAGGGATGTACTAGATGGCGA
GCAGACCAGCCCCTCCTTTATGAGCACAGCATGGCTTGTCTTCAAGACTTTCTTTGCCTCTCTTCTTCCA
GAAGGCCCCCCAGCCATCGCAAACTGATGGTGTTTGTGCTGTAGCTGTTGGAGGCTTTGACAGGAATGGA

CTGGATCACCTGACTCCAGCTAGATTGCCTCTCCTGGACATGGCAATGATGAGTTTTTAAAAAACAGTGT
GGATGATGATATGCTTTTGTGAGCAAGCAAAAGCAGAAACGTGAAGCCGTGATACAAATTGGTGAACAAA
AAATGCCCAAGGCTTCTCATGTCTTTATTCTGAAGAGCTTTAATATATACTCTATGTAGTTTAATAAGCA
CTGTACGTAGAAGGCCTTAGGTGTTGCATGTCTATGCTTGAGGAACTTTTCCAAATGTGTGTGTCTGCAT
GTGTGTTTGTACATAGAAGTCATAGATGCAGAAGTGGTTCTGCTGGTACGATTTGATTCCTGTTGGAATG
TTTAAATTACACTAAGTGTACTACTTTATATAATCAATGAAATTGCTAGACATGTTTTAGCAGGACTTTT
CTAGGAAAGACTTATGTATAATTGCTTTTTAAAATGCAGTGCTTTACTTTAAACTAAGGGGAACTTTGCG
GAGGTGAAAACCTTTGCTGGGTTTTCTGTTCAATAAAGTTTTACTATGAATGACCCTGAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA
AAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

Human HERPUD1 mRNA sequence - var2 (public gi: 10441910) (SEQ ID NO: 52)
GCTGTGTGGCCCAGGCTTTTCTCAAACTCCTGAGGGCAAGCGATCCTCCCACCTCAGCCTCCTGAGTAGC
TGGGACTACAGGCATGTGCCACTAGACCTGGCTCTAAAGACATATATGACACACGAAACCATTTATTTTT
CATTTCACAATGTTTATTCACATATATGGTATTAGTATTCTAATGTAGTGATGCACTCTAAATTTGCATT
ATATTTCCTAGAACATCTGAACAGAGCATAGGAAATTCCCTATTTTGCCATTATCAGTTCTAACAAAAAT
CTTAAAAGCACTTTATCATTTCATTTCCCTGCACTGTAATTTTTTTAAATGATCAAAAACAGTATCATAC
CAAGGCTTACTTATATTGGAATACTATTTTAGAAAGTTGTGGGCTGGGTTGTATTTATAAATCTTGTTGG
TCAGATGTCTGCAATGAGTAAATTTAGCACCATTATCAGGAAGCTTTCTCACCAATGACAACTTCATTGG
AAGATTTTAATGAAAGTGTAGCATACTCTAGGGAAAAAATATGAATATTTTAGCATCTATGTATTGAAAA
TTATGTTGAATAAATGTCAGACTATTTTTTACATAACGTTGCTTCTGTTTAATTTTGTCACGTTCAGAGG
TGGGGGGTAGGAGATGTAAGCCCTTGACAGCAAAATAATTCCTTTTGCTTGATTTCAGACAGTTGCATCA
GCTCCTTTGTTCTGTGTTCATGTTACACTTATTTAGGTGGCTGAATCCACAGAGGAGCCTGCTGGTTCTA
ATCGGGGACAGTATCCTGAGGATTCCTCAAGTGATGGTTTAAGGCAAAGGGAAGTTCTTCGGAACCTTTC
TTCCCCTGGATGGGAAAACATCTCAAGGCCTGAAGCTGCCCAGCAGGCATTCCAAGGCCTGGGTCCTGGT
TTCTCCGGTTACACACCCTATGGGTGGCTTCAGCTTTCCTGGTTCCAGCAGATATATGCACGACAGTACT
ACATGCAATATTTAGCAGCCACTGCTGCATCAGGGGCTTTTGTTCCACCACCAAGTGCACAAGAGATACC
TGTGGTCTCTGCACCTGCTCCAGCCCCTATTCACAACCAGTTTCCAGCTGAAAACCAGCCTGCCAATCAG
AATGCTGCTCCTCAAGTGGTTGTTAATCCTGGAGCCAATCAAAATTTGCGGATGAATGCACAAGGTGGCC
CTATTGTGGAAGAAGATGATGAAATAAATCGAGATTGGTTGGATTGGACCTATTCAGCAGCTACATTTTC
TGTTTTTCTCAGTATCCTCTACTTCTACTCCTCCCTGAGCAGATTCCTCATGGTCATGGGGGCCACCGTT
GTTATGTACCTGCATCACGTTGGGTGGTTTCCATTTAGACCGAGGCCGGTTCAGAACTTCCCAAATGATG
GTCCTCCTCCTGACGTTGTAAATCAGGACCCCAACAATAACTTACAGGAAGGCACTGATCCTGAAACTGA
AGACCCCAACCACCTCCCTCCAGACAGGGATGTACTAGATGGCGAGCAGACCAGCCCCTCCTTTATGAGC
ACAGCATGGCTTGTCTTCAAGACTTTCTTTGCCTCTCTTCTTCCAGAAGGCCCCCCAGCCATCGCAAACT
GATGGTGTTTGTGCTGTAGCTGTTGGAGGCTTTGACAGGAATGGACTGGATCACCTGACTCCAGCTAGAT
TGCCTCTCCTGGACATGGCAATGATGAGTTTTTAAAAAACAGTGTGGATGATGATATGCTTTTGTGAGCA
AGCAAAAGCAGAAACGTGAAGCCGTGATACAAATTGGTGAACAAAAAATGCCCAAGGCTTCTCATGTCTT
TATTCTGAAGAGCTTTAATATATACTCTATGTAGTTTAATAAGCACTGTACGTAGAAGGCCTTAGGTGTT
GCATGTCTATGCTTGAGGAACTTTTCCAAATGTGTGTGTCTGCATGTGTGTTTGTACATAGAAGTCATAG
ATGCAGAAGTGGTTCTGCTGGTACGATTTGATTCCTGTTGGAATGTTTAAATTACACTAAGTGTACTACT
TTATATAATCAATGAAATTGCTAGACATGTTTTAGCAGGACTTTTCTAGGAAAGACTTATGTATAATTGC
TTTTTAAAATGCAGTGCTTTACTTTAAACTAAGGGGAACTTTGCGGAGGTGAAAACCTTTGCTGGGTTTT
CTGTTCAATAAAGTTTTACTATGAATGACAAAAAAAAAAAAAAAAA

Human HERPUD1 mRNA sequence - var3 (public gi: 3005722) (SEQ ID NO: 53)
GGCCACCTCAAGGCCCACCTGAGCCGCGTCTACCCCGAGCGTCCGCGTCCAGAGGACCAGAGGTTAATTT
ATTCTGGGAAGCTGTTGTTGGATCACCAATGTCTCAGGGACTTGCTTCCAAAGGAAAAACGGCATGTTTT
GCATCTGGTGTGCAATGTGAAGAGTCCTTCAAAAATGCCAGAAATCAACGCCAAGGTGGCTGAATCCACA
GAGGAGCCTGCTGGTTCTAATCGGGGACAGTATCCTGAGGATTCCTCAAGTGATGGTTTAAGGCAAAGGG
AAGTTCTTCGGAACCTTTCTTCCCCTGGATGGGAAAACATCTCAAGGCCTGAAGCTGCCCAGCAGGCATT
CCAAGGCCTGGGTCCTGGTTTCTCCGGTTACACACCCTATGGGTGGCTTCAGCTTTCCTGGTTCCAGCAG
ATATATGCACGACAGTACTACATGCAATATTTAGCAGCCACTGCTGCATCAGGGGCTTTTGTTCCACCAC
CAAGTGCACAAGAGATACCTGTGGTCTCTGCACCTGCTCCAGCCCCTATTCACAACCAGTTTCCAGCTGA
AAACCAGCCTGCCAATCAGAATGCTGCTCCTCAAGTGGTTGTTAATCCTGGAGCCAATCAAAATTTGCGG
ATGAATGCACAAGGTGGCCCTATTGTGGAAGAAGATGATGAAATAAATCGAGATTGGTTGGATTGGACCT
ATTCAGCAGCTACATTTTCTGTTTTTCTCAGTATCCTCTACTTCTACTCCTCCCTGAGCAGATTCCTCAT
GGTCATGGGGGCCACCGTTGTTATGTACCTGCATCACGTTGGGTGGTTTCCATTTAGACCGAGGCCGGTT
CAGAACTTCCCAAATGATGGTCCTCCTCCTGACGTTGTAAATCAGGACCCCAACAATAACTTACAGGAAG
GCACTGATCCTGAAACTGAAGACCCCAACCACCTCCCTCCAGACAGGGATGTACTAGATGGCGAGCAGAC
CAGCCCCTCCTTTATGAGCACAGCATGGCTTGTCTTCAAGACTTTCTTTGCCTCTCTTCTTCCAGAAGGC
CCCCCAGCCATCGCAAACTGATGGTGTTTGTGCTGTAGCTGTTGGAGGCTTTGACAGGAATGGACTGGAT

CACCTGACTCCAGCTAGATTGCCTCTCCTGGACATGGCAATGATGAGTTTTTAAAAAACAGTGTGGATGA
TGATATGCTTTTGTGAGCAAGCAAAAGCAGAAACGTGAAGCCGTGATACAAATTGGTGAACAAAAAATGC
CCAAGGCTTCTCATGTCTTTATTCTGAAGAGCTTTAATATATACTCTATGTAGTTTAATAAGCACTGTAC
GTAGAAGGCCTTAGGTGTTGCATGTCTATGCTTGAGGAACTTTTCCAAATGTGTGTGTCTGCATGTGTGT
TTGTACATAGAAGTCATAGATGCAGAAGTGGTTCTGCTGGTACGATTTGATTCCTGTTGGAATGTTTAAA
TTACACTAAGTGTACTACTTTATATAATCAATGAAATTGCTAGACATGTTTTAGCAGGACTTTTCTAGGA
AAGACTTATGTATAATTGCTTTTTAAAATGCAGTGCTTTACTTTAAACTAAGGGGAACTTTGCGGAGGTG
AAAACCTTTGCTGGGTTTTCTGTTCAATAAAGTTTTACTATGAATGACCCTGAAAAAAAAAAAAAAAAAA
AAAA

Human HERPUD1 mRNA sequence - var4 (public gi: 21619176) (SEQ ID NO: 54)

CCACGCGTCCGGGTCGTTGCAGAGATTGCGGGCGGCTGAGACGCCGCCTGCCTGGCACCTAGGAGCGCAG
CGGAGCCCCGACACCGCCGCCGCCGCCATGGAGTCCGAGACCGAACCCGAGCCCGTCACGCTCCTGGTGA
AGAGCCCCAACCAGCGCCACCGCGACTTGGAGCTGAGTGGCGACCGCGGCTGGAGTGTGGGCCACCTCAA
GGCCCACCTGAGCCGCGTCTACCCCGAGCGTCCGCGTCCAGAGGACCAGAGGTTAATTTATTCTGGGAAG
CTGTTGTTGGATCACCAATGTCTCAGGGACTTGCTTCCAAAGCAGGAAAAACGGCATGTTTTGCATCTGG
TGTGCAATGTGAAGAGTCCTTCAAAAATGCCAGAAATCAACGCCAAGGTGGCTGAATCCACAGAGGAGCC
TGCTGGTTCTAATCGGGGACAGTATCCTGAGGATTCCTCAAGTGATGGTTTAAGGCAAAGGGAAGTTCTT
CGGAACCTTTCTTCCCCTGGATGGGAAAACATCTCAAGGCCTGAAGCTGCCCAGCAGGCATTCCAAGGCC
TGGGTCCTGGTTTCTCCGGTTACACACCCTATGGGTGGCTTCAGCTTTCCTGGTTCCAGCAGATATATGC
ACGACAGTACTACATGCAATATTTAGCAGCCACTGCTGCATCAGGGGCTTTTGTTCCACCACCAAGTGCA
CAAGAGATACCTGTGGTCTCTGCACCTGCTCCAGCCCCTATTCACAACCAGTTTCCAGCTGAAAACCAGC
CTGCCAATCAGAATGCTGCTCCTCAAGTGGTTGTTAATCCTGGAGCCAATCAAAATTTGCGGATGAATGC
ACAAGGTGGCCCTATTGTGGAAGAAGATGATGAAATAAATCGAGATTGGTTGGATTGGACCTATTCAGCA
GCTACATTTTCTGTTTTTCTCAGTATCCTCTACTTCTACTCCTCCCTGAGCAGATTCCTCATGGTCATGG
GGGCCACCGTTGTTATGTACCTGCATCACGTTGGGTGGTTTCCATTTAGACCGAGGCCGGTTCAGAACTT
CCCAAATGATGGTCCTCCTCCTGACGTTGTAAATCAGGACCCCAACAATAACTTACAGGAAGGCACTGAT
CCTGAAACTGAAGACCCCAACCACCTCCCTCCAGACAGGGATGTACTAGATGGCGAGCAGACCAGCCCCT
CCTTTATGAGCACAGCATGGCTTGTCTTCAAGACTTTCTTTGCCTCTCTTCTTCCAGAAGGCCCCCCAGC
CATCGCAAACTGATGGTGTTTGTGCTGTAGCTGTTGGAGGCTTTGACAGGAATGGACTGGATCACCTGAC
TCCAGCTAGATTGCCTCTCCTGGACATGGCAATGATGAGTTTTTAAAAAACAGTGTGGATGATGATATGC
TTTTGTGAGCAAGCAAAGCAGAAACGTGAAGCCGTGATACAAATTGGTGAACAAAAAATGCCCAAGGCTT
CTCATGTCTTTATTCTGAAGAGCTTTAATATATACTCTATGTAGTTTAATAAGCACTGTACGTAGAAGGC
CTTAGGTGTTGCATGTCTATGCTTGAGGAACTTTTCCAAATGTGTGTGTCTGCATGTGTGTTTGTACATA
GAAGTCATAGATGCAGAAGTGGTTCTGCTGGTACGATTTGATTCCTGTTGGAATGTTTAAATTACACTAA
GTGTACTACTTTATATAATCAATGAAATTGCTAGACATGTTTTAGCAGGACTTTTCTAGGAAAGACTTAT
GTATAATTGCTTTTTAAAATGCAGTGCTTTACTTTAAACTAAGGGGAACTTTGCGGAGGTGAAAACCTTT
GCTGGGTTTTCTGTTCAATAAAGTTTTACTATGAATGACCCTGAAAAAAAAAAAAAAAA

Human HERPUD1 mRNA sequence - var5 (public gi: 14249882) (SEQ ID NO: 55)

AACGGTCGTTGCAGAGATTGCGGGCGGCTGAGACGCCGCCTGCCTGGCACCTAGGAGCGCAGCGGAGCCC
CGACACCGCCGCCGCCGCCATGGAGTCCGAGACCGAACCCGAGCCCGTCACGCTCCTGGTGAAGAGCCCC
AACCAGCGCCACCGCGACTTGGAGCTGAGTGGCGACCGCGGCTGGAGTGTGGGCCACCTCAAGGCCCACC
TGAGCCGCGTCTACCCCGAGCGTCCGCGTCCAGAGGACCAGAGGTTAATTTATTCTGGGAAGCTGTTGTT
GGATCACCAATGTCTCAGGGACTTGCTTCCAAAGCAGGAAAAACGGCATGTTTTGCATCTGGTGTGCAAT
GTGAAGAGTCCTTCAAAAATGCCAGAAATCAACGCCAAGGTGGCTGAATCCACAGAGGAGCCTGCTGGTT
CTAATCGGGGACAGTATCCTGAGGATTCCTCAAGTGATGGTTTAAGGCAAAGGGAAGTTCTTCGGAACCT
TTCTTCCCCTGGATGGGAAAACATCTCAAGGCCTGAAGCTGCCCAGCAGGCATTCCAAGGCCTGGGTCCT
GGTTTCTCCGGTTACACACCCTATGGGTGGCTTCAGCTTTCCTGGTTCCAGCAGATATATGCACGACAGT
ACTACATGCAATATTTAGCAGCCACTGCTGCATCAGGGGCTTTTGTTCCACCACCAAGTGCACAAGAGAT
ACCTGTGGTCTCTGCACCTGCTCCAGCCCCTATTCACAACCAGTTTCCAGCTGAAAACCAGCCTGCCAAT
CAGAATGCTGCTCCTCAAGTGGTTGTTAATCCTGGAGCCAATCAAAATTTGCGGATGAATGCACAAGGTG
GCCCTATTGTGGAAGAAGATGATGAAATAAATCGAGATTGGTTGGATTGGACCTATTCAGCAGCTACATT
TTCTGTTTTTCTCAGTATCCTCTACTTCTACTCCTCCCTGAGCAGATTCCTCATGGTCATGGGGGCCACC
GTTGTTATGTACCTGCATCACGTTGGGTGGTTTCCATTTAGACCGAGGCCGGTTCAGAACTTCCCAAATG
ATGGTCCTCCTCCTGACGTTGTAAATCAGGACCCCAACAATAACTTACAGGAAGGCACTGATCCTGAAAC
TGAAGACCCCAACCACCTCCCTCCAGACAGGGATGTACTAGATGGCGAGCAGACCAGCCCCTCCTTTATG
AGCACAGCATGGCTTGTCTTCAAGACTTTCTTTGCCTCTCTTCTTCCAGAAGGCCCCCCAGCCATCGCAA
ACTGATGGTGTTTGTGCTGTAGCTGTTGGAGGCTTTGACAGGAATGGACTGGATCACCTGACTCCAGCTA
GATTGCCTCTCCTGGACATGGCAATGATGAGTTTTTAAAAAACAGTGTGGATGATGATATGCTTTTGTGA
GCAAGCAAAAGCAGAAACGTGAAGCCGTGATACAAATTGGTGAACAAAAAATGCCCAAGGCTTCTCATGT
CTTTATTCTGAAGAGCTTTAATATATACTCTATGTAGTTTAATAAGCACTGTACGTAGAAGGCCTTAGGT

GTTGCATGTCTATGCTTGAGGAACTTTTCCAAATGTGTGTGTCTGCATGTGTGTTTGTACATAGAAGTCA
TAGATGCAGAAGTGGTTCTGCTGGTACGATTTGATTCCTGTTGGAATGTTTAAATTACACTAAGTGTACT
ACTTTATATAATCAATGAAATTGCTAGACATGTTTTAGCAGGACTTTTCTAGGAAAGACTTATGTATAAT
TGCTTTTTAAAATGCAGTGCTTTACTTTAAACTAAGGGGAACTTTGCGGAGGTGAAAACCTTTGCTGGGT
TTTCTGTTCAATAAAGTTTTACTATGAAAAAAAAAAAAAAAAA

Human HERPUD1 mRNA sequence - var6 (public gi: 12652674) (SEQ ID NO: 56)

GAACTGTCGTTGCAGAGATTGCGGGCGGCTGAGACGCCGCCTGCCTGGCACCTAGGAGCGCAGCGGAGCC
CCGACACCGCCGCCGCCGCCATGGAGTCCGAGACCGAACCCGAGCCCGTCACGCTCCTGGTGAAGAGCCC
CAACCAGCGCCACCGCGACTTGGAGCTGAGTGGCGACCGCGGCTGGAGTGTGGGCCACCTCAAGGCCCAC
CTGAGCCGCGTCTACCCCGAGCGTCCGCGTCCAGAGGACCAGAGGTTAATTTATTCTGGGAAGCTGTTGT
TGGATCACCAATGTCTCAGGGACTTGCTTCCAAAGCAGGAAAAACGGCATGTTTTGCATCTGGTGTGCAA
TGTGAAGAGTCCTTCAAAAATGCCAGAAATCAACGCCAAGGTGGCTGAATCCACAGAGGAGCCTGCTGGT
TCTAATCGGGGACAGTATCCTGAGGATTCCTCAAGTGATGGTTTAAGGCAAAGGGAAGTTCTTCGGAACC
TTTCTTCCCCTGGATGGGAAAACATCTCAAGGCCTGAAGCTGCCCAGCAGGCATTCCAAGGCCTGGGTCC
TGGTTTCTCCGGTTACACACCCTATGGGTGGCTTCAGCTTTCCTGGTTCCAGCAGATATATGCACGACAG
TACTACATGCAATATTTAGCAGCCACTGCTGCATCAGGGGCTTTTGTTCCACCACCAAGTGCACAAGAGA
TACCTGTGGTCTCTGCACCTGCTCCAGCCCCTATTCACAACCAGTTTCCAGCTGAAAACCAGCCTGCCAA
TCAGAATGCTGCTCCTCAAGTGGTTGTTAATCCTGGAGCCAATCAAAATTTGCGGATGAATGCACAAGGT
GGCCCTATTGTGGAAGAAGATGATGAAATAAATCGAGATTGGTTGGATTGGACCTATTCAGCAGCTACAT
TTTCTGTTTTTCTCAGTATCCTCTACTTCTACTCCTCCCTGAGCAGATTCCTCATGGTCATGGGGGCCAC
CGTTGTTATGTACCTGCATCACGTTGGGTGGTTTCCATTTAGACCGAGGCCGGTTCAGAACTTCCCAAAT
GATGGTCCTCCTCCTGACGTTGTAAATCAGGACCCCAACAATAACTTACAGGAAGGCACTGATCCTGAAA
CTGAAGACCCCAACCACCTCCCTCCAGACAGGGATGTACTAGATGGCGAGCAGACCAGCCCCTCCTTTAT
GAGCACAGCATGGCTTGTCTTCAAGACTTTCTTTGCCTCTCTTCTTCCAGAAGGCCCCCCAGCCATCGCA
AACTGATGGTGTTTGTGCTGTAGCTGTTGGAGGCTTTGACAGGAATGGACTGGATCACCTGACTCCAGCT
AGATTGCCTCTCCTGGACATGGCAATGATGAGTTTTTAAAAAACAGTGTGGATGATGATATGCTTTTGTG
AGCAAGCAAAAGCAGAAACGTGAAGCCGTGATACAAATTGGTGAACAAAAAATGCCCAAGGCTTCTCATG
TCTTTATTCTGAAGAGCTTTAATATATACTCTATGTAGTTTAATAAGCACTGTACGTAGAAGGCCTTAGG
TGTTGCATGTCTATGCTTGAGGAACTTTTCCAAATGTGTGTGTCTGCATGTGTGTTTGTACATAGAAGTC
ATAGATGCAGAAGTGGTTCTGCTGGTACGATTTGATTCCTGTTGGAATGTTTAAATTACACTAAGTGTAC
TACTTTATATAATCAATGAAATTGCTAGACATGTTTTAGCAGGACTTTTCTAGGAAAGACTTATGTATAA
TTGCTTTTTAAAATGCAGTGCTTTACTTTAAACTAAGGGGAACTTTGCGGAGGTGAAAACCTTTGCTGGG
TTTTCTGTTCAATAAAGTTTTACTATGAATGAAAAAAAAAAAAAAAAAA

Human HERPUD1 mRNA sequence - var7 (public gi: 9711684) (SEQ ID NO: 57)

AGAGACGTGAACTGTCGTTGCAGAGATTGCGGGCGGCTGAGACGCCGCCTGCCTGGCACCTAGGAGCGCA
GCGGAGCCCCGACACCGCCGCCGCCGCCATGGAGTCCGAGACCGAACCCGAGCCCGTCACGCTCCTGGTG
AAGAGCCCCAACCAGCGCCACCGCGACTTGGAGCTGAGTGGCGACCGCGGCTGGAGTGTGGGCCACCTCA
AGGCCCACCTGAGCCGCGTCTACCCCGAGCGTCCGCGTCCAGAGGACCAGAGGTTAATTTATTCTGGGAA
GCTGTTGTTGGATCACCAATGTCTCAGGGACTTGCTTCCAAAGCAGGAAAAACGGCATGTTTTGCATCTG
GTGTGCAATGTGAAGAGTCCTTCAAAAATGCCAGAAATCAACGCCAAGGTGGCTGAATCCACAGAGGAGC
CTGCTGGTTCTAATCGGGGACAGTATCCTGAGGATTCCTCAAGTGATGGTTTAAGGCAAAGGGAAGTTCT
TCGGAACCTTTCTTCCCCTGGATGGGAAAACATCTCAAGGCCTGAAGCTGCCCAGCAGGCATTCCAAGGC
CTGGGTCCTGGTTTCTCCGGTTACACACCCTATGGGTGGCTTCAGCTTTCCTGGTTCCAGCAGATATATG
CACGACAGTACTACATGCAATATTTAGCAGCCACTGCTGCATCAGGGGCTTTTGTTCCACCACCAAGTGC
ACAAGAGATACCTGTGGTCTCTGCACCTGCTCCAGCCCCTATTCACAACCAGTTTCCAGCTGAAAACCAG
CCTGCCAATCAGAATGCTGCTCCTCAAGTGGTTGTTAATCCTGGAGCCAATCAAAATTTGCGGATGAATG
CACAAGGTGGCCCTATTGTGGAAGAAGATGATGAAATAAATCGAGATTGGTTGGATTGGACCTATTCAGC
AGCTACATTTTCTGTTTTTCTCAGTATCCTCTACTTCTACTCCTCCCTGAGCAGATTCCTCATGGTCATG
GGGGCCACCGTTGTTATGTACCTGCATCACGTTGGGTGGTTTCCATTTAGACCGAGGCCGGTTCAGAACT
TCCCAAATGATGGTCCTCCTCCTGACGTTGTAAATCAGGACCCCAACAATAACTTACAGGAAGGCACTGA
TCCTGAAACTGAAGACCCCAACCACCTCCCTCCAGACAGGGATGTACTAGATGGCGAGCAGACCAGCCCC
TCCTTTATGAGCACAGCATGGCTTGTCTTCAAGACTTTCTTTGCCTCTCTTCTTCCAGAAGGCCCCCCAG
CCATCGCAAACTGATGGTGTTTGTGCTGTAGCTGTTGGAGGCTTTGACAGGAATGGACTGGATCACCTGA
CTCCAGCTAGATTGCCTCTCCTGGACATGGCAATGATGAGTTTTTAAAAAACAGTGTGGATGATGATATG
CTTTTGTGAGCAAGCAAAAGCAGAAACGTGAAGCCGTGATACAAATTGGTGAACAAAAAATGCCCAAGGC
TTCTCATGTCTTTATTCTGAAGAGCTTTAATATATACTCTATGTAGTTTAATAAGCACTGTACGTAGAAG
GCCTTAGGTGTTGCATGTCTATGCTTGAGGAACTTTTCCAAATGTGTGTGTCTGCATGTGTGTTTGTACA
TAGAAGTCATAGATGCAGAAGTGGTTCTGCTGGTACGATTTGATTCCTGTTGGAATGTTTAAATTACACT
AAGTGTACTACTTTATATAATCAATGAAATTGCTAGACATGTTTTAGCAGGACTTTTCTAGGAAAGACTT
ATGTATAATTGCTTTTTAAAATGCAGTGCTTTACTTTAAACTAAGGGGAACTTTGCGGAGGTGAAAACCT

TTGCTGGGTTTTCTGTTCAATAAAGTTTTACTATGAATGACCCTG

Human HERPUD1 mRNA sequence - var8 (public gi: 3005718) (SEQ ID NO: 58)

GACGTGAACGGTCGTTGCAGAGATTGCGGGCGGCTGAGACGCCGCCTGCCTGGCACCTAGGAGCGCAGCG
GAGCCCCGACACCGCCGCCGCCGCCATGGAGTCCGAGACCGAACCCGAGCCCGTCACGCTCCTGGTGAAG
AGCCCCAACCAGCGCCACCGCGACTTGGAGCTGAGTGGCGACCGCGGCTGGAGTGTGGGCCACCTCAAGG
CCCACCTGAGCCGCGTCTACCCCGAGCGTCCGCGTCCAGAGGACCAGAGGTTAATTTATTCTGGGAAGCT
GTTGTTGGATCACCAATGTCTCAGGGACTTGCTTCCAAAGCAGGAAAAACGGCATGTTTTGCATCTGGTG
TGCAATGTGAAGAGTCCTTCAAAAATGCCAGAAATCAACGCCAAGGTGGCTGAATCCACAGAGGAGCCTG
CTGGTTCTAATCGGGGACAGTATCCTGAGGATTCCTCAAGTGATGGTTTAAGGCAAAGGGAAGTTCTTCG
GAACCTTTCTTCCCCTGGATGGGAAAACATCTCAAGGCCTGAAGCTGCCCAGCAGGCATTCCAAGGCCTG
GGTCCTGGTTTCTCCGGTTACACACCCTATGGGTGGCTTCAGCTTTCCTGGTTCCAGCAGATATATGCAC
GACAGTACTACATGCAATATTTAGCAGCCACTGCTGCATCAGGGGCTTTTGTTCCACCACCAAGTGCACA
AGAGATACCTGTGGTCTCTGCACCTGCTCCAGCCCCTATTCACAACCAGTTTCCAGCTGAAAACCAGCCT
GCCAATCAGAATGCTGCTCCTCAAGTGGTTGTTAATCCTGGAGCCAATCAAAATTTGCGGATGAATGCAC
AAGGTGGCCCTATTGTGGAAGAAGATGATGAAATAAATCGAGATTGGTTGGATTGGACCTATTCAGCAGC
TACATTTTCTGTTTTTCTCAGTATCCTCTACTTCTACTCCTCCCTGAGCAGATTCCTCATGGTCATGGGG
GCCACCGTTGTTATGTACCTGCATCACGTTGGGTGGTTTCCATTTAGACCGAGGCCGGTTCAGAACTTCC
CAAATGATGGTCCTCCTCCTGACGTTGTAAATCAGGACCCCAACAATAACTTACAGGAAGGCACTGATCC
TGAAACTGAAGACCCCAACCACCTCCCTCCAGACAGGGATGTACTAGATGGCGAGCAGACCAGCCCCTCC
TTTATGAGCACAGCATGGCTTGTCTTCAAGACTTTCTTTGCCTCTCTTCTTCCAGAAGGCCCCCCAGCCA
TCGCAAACTGATGGTGTTTGTGCTGTAGCTGTTGGAGGCTTTGACAGGAATGGACTGGATCACCTGACTC
CAGCTAGATTGCCTCTCCTGGACATGGCAATGATGAGTTTTTAAAAAACAGTGTGGATGATGATATGCTT
TTGTGAGCAAGCAAAAGCAGAAACGTGAAGCCGTGATACAAATTGGTGAACAAAAAATGCCCAAGGCTTC
TCATGTCTTTATTCTGAAGAGCTTTAATATATACTCTATGTAGTTTAATAAGCACTGTACGTAGAAGGCC
TTAGGTGTTGCATGTCTATGCTTGAGGAACTTTTCCAAATGTGTGTGTCTGCATGTGTGTTTGTACATAG
AAGTCATAGATGCAGAAGTGGTTCTGCTGGTACGATTTGATTCCTGTTGGAATGTTTAAATTACACTAAG
TGTACTACTTTATATAATCAATGAAATTGCTAGACATGTTTTAGCAGGACTTTTCTAGGAAAGACTTATG
TATAATTGCTTTTTAAAATGCAGTGCTTTACTTTAAACTAAGGGGAACTTTGCGGAGGTGAAAACCTTTG
CTGGGTTTTCTGTTCAATAAAGTTTTACTATGAATGACCCTGAAAAAAAAAAAAAAAAAAAAAA

Human HERPUD1 mRNA sequence - var9 (public gi: 285960) (SEQ ID NO: 59)

CGTGAACGGTCGTTGCAGAGATTGCGGGCGGCTGAGACGCCGCCTGCCTGGCACCTAGGAGCGCAGCGGA
GCCCCGACACCGCCGCCGCCGCCATGGAGTCCGAGACCGAACCCGAGCCCGTCACGCTCCTGGTGAAGAG
CCCCAACCAGCGCCACCGCGACTTGGAGCTGAGTGGCGACCGCGGCTGGAGTGTGGGCCACCTCAAGGCC
CACCTGAGCCGCGTCTACCCCGAGCGTCCGCGTCCAGAGGACCAGAGGTTAATTTATTCTGGGAAGCTGT
TGTTGGATCACCAATGTCTCAGGGACTTGCTTCCAAAGCAGGAAAAACGGCATGTTTTGCATCTGGTGTG
CAATGTGAAGAGTCCTTCAAAAATGCCAGAAATCAACGCCAAGGTGGCTGAATCCACAGAGGAGCCTGCT
GGTTCTAATCGGGGACAGTATCCTGAGGATTCCTCAAGTGATGGTTTAAGGCAAAGGGAAGTTCTTCGGA
ACCTTTCTTCCCCTGGATGGGAAAACATCTCAAGGCCTGAAGCTGCCCAGCAGGCATTCCAAGGCCTGGG
TCCTGGTTTCTCCGGTTACACACCCTATGGGTGGCTTCAGCTTTCCTGGTTCCAGCAGATATATGCACGA
CAGTACTACATGCAATATTTAGCAGCCACTGCTGCATCAGGGGCTTTTGTTCCACCACCAAGTGCACAAG
AGATACCTGTGGTCTCTGCACCTGCTCCAGCCCCTATTCACAACCAGTTTCCAGCTGAAAACCAGCCTGC
CAATCAGAATGCTGCTCCTCAAGTGGTTGTTAATCCTGGAGCCAATCAAAATTTGCGGATGAATGCACAA
GGTGGCCCTATTGTGGAAGAAGATGATGAAATAAATCGAGATTGGTTGGATTGGACCTATTCAGCAGCTA
CATTTTCTGTTTTTCTCAGTATCCTCTACTTCTACTCCTCCCTGAGCAGATTCCTCATGGTCATGGGGGC
CACCGTTGTTATGTACCTGCATCACGTTGGGTGGTTTCCATTTAGACCGAGGCCGGTTCAGAACTTCCCA
AATGATGGTCCTCCTCCTGACGTTGTAAATCAGGACCCCAACAATAACTTACAGGAAGGCACTGATCCTG
AAACTGAAGACCCCAACCACCTCCCTCCAGACAGGGATGTACTAGATGGCGAGCAGACCAGCCCCTCCTT
TATGAGCACAGCATGGCTTGTCTTCAAGACTTTCTTTGCCTCTCTTCTTCCAGAAGGCCCCCCAGCCATC
GCAAACTGATGGTGTTTGTGCTGTAGCTGTTGGAGGCTTTGACAGGAATGGACTGGATCACCTGACTCCA
GCTAGATTGCCTCTCCTGGACATGGCAATGATGAGTTTTTAAAAAACAGTGTGGATGATGATATGCTTTT
GTGAGCAAGCAAAAGCAGAAACGTGAAGCCGTGATACAAATTGGTGAACAAAAAATGCCCAAGGCTTCTC
ATGTGTTTATTCTGAAGAGCTTTAATATATACTCTATGTAGTTTAATAAGCACTGTACGTAGAAGGCCTT
AGGTGTTGCATGTCTATGCTTGAGGAACTTTTCCAAATGTGTGTGTCTGCATGTGTGTTTGTACATAGAA
GTCATAGATGCAGAAGTGGTTCTGCTGGTAAGATTTGATTCCTGTTGGAATGTTTAAATTACACTAAGTG
TACTACTTTATATAATCAATGAAATTGCTAGACATGTTTTAGCAGGACTTTTCTAGGAAAGACTTATGTA
TAATTGCTTTTTAAAATGCAGTGCTTTACTTTAAACTAAGGGGAACTTTGCGGAGGTGAAAACCTTTGCT
GGGTTTTCTGTTCAATAAAGTTTTACTATGAATGACCCTG

Human HERPUD1 mRNA sequence - var10 (public gi: 7661869) (SEQ ID NO: 60)

GACGTGAACGGTCGTTGCAGAGATTGCGGGCGGCTGAGACGCCGCCTGCCTGGCACCTAGGAGCGCAGCG

GAGCCCCGACACCGCCGCCGCCGCCATGGAGTCCGAGACCGAACCCGAGCCCGTCACGCTCCTGGTGAAG
AGCCCCAACCAGCGCCACCGCGACTTGGAGCTGAGTGGCGACCGCGGCTGGAGTGTGGGCCACCTCAAGG
CCCACCTGAGCCGCGTCTACCCCGAGCGTCCGCGTCCAGAGGACCAGAGGTTAATTTATTCTGGGAAGCT
GTTGTTGGATCACCAATGTCTCAGGGACTTGCTTCCAAAGCAGGAAAAACGGCATGTTTTGCATCTGGTG
TGCAATGTGAAGAGTCCTTCAAAAATGCCAGAAATCAACGCCAAGGTGGCTGAATCCACAGAGGAGCCTG
CTGGTTCTAATCGGGGACAGTATCCTGAGGATTCCTCAAGTGATGGTTTAAGGCAAAGGGAAGTTCTTCG
GAACCTTTCTTCCCCTGGATGGGAAAACATCTCAAGGCCTGAAGCTGCCCAGCAGGCATTCCAAGGCCTG
GGTCCTGGTTTCTCCGGTTACACACCCTATGGGTGGCTTCAGCTTTCCTGGTTCCAGCAGATATATGCAC
GACAGTACTACATGCAATATTTAGCAGCCACTGCTGCATCAGGGGCTTTTGTTCCACCACCAAGTGCACA
AGAGATACCTGTGGTCTCTGCACCTGCTCCAGCCCCTATTCACAACCAGTTTCCAGCTGAAAACCAGCCT
GCCAATCAGAATGCTGCTCCTCAAGTGGTTGTTAATCCTGGAGCCAATCAAAATTTGCGGATGAATGCAC
AAGGTGGCCCTATTGTGGAAGAAGATGATGAAATAAATCGAGATTGGTTGGATTGGACCTATTCAGCAGC
TACATTTTCTGTTTTTCTCAGTATCCTCTACTTCTACTCCTCCCTGAGCAGATTCCTCATGGTCATGGGG
GCCACCGTTGTTATGTACCTGCATCACGTTGGGTGGTTTCCATTTAGACCGAGGCCGGTTCAGAACTTCC
CAAATGATGGTCCTCCTCCTGACGTTGTAAATCAGGACCCCAACAATAACTTACAGGAAGGCACTGATCC
TGAAACTGAAGACCCCAACCACCTCCCTCCAGACAGGGATGTACTAGATGGCGAGCAGACCAGCCCCTCC
TTTATGAGCACAGCATGGCTTGTCTTCAAGACTTTCTTTGCCTCTCTTCTTCCAGAAGGCCCCCCAGCCA
TCGCAAACTGATGGTGTTTGTGCTGTAGCTGTTGGAGGCTTTGACAGGAATGGACTGGATCACCTGACTC
CAGCTAGATTGCCTCTCCTGGACATGGCAATGATGAGTTTTTAAAAAACAGTGTGGATGATGATATGCTT
TTGTGAGCAAGCAAAAGCAGAAACGTGAAGCCGTGATACAAATTGGTGAACAAAAAATGCCCAAGGCTTC
TCATGTCTTTATTCTGAAGAGCTTTAATATATACTCTATGTAGTTTAATAAGCACTGTACGTAGAAGGCC
TTAGGTGTTGCATGTCTATGCTTGAGGAACTTTTCCAAATGTGTGTGTCTGCATGTGTGTTTGTACATAG
AAGTCATAGATGCAGAAGTGGTTCTGCTGGTACGATTTGATTCCTGTTGGAATGTTTAAATTACACTAAG
TGTACTACTTTATATAATCAATGAAATTGCTAGACATGTTTTAGCAGGACTTTTCTAGGAAAGACTTATG
TATAATTGCTTTTTAAAATGCAGTGCTTTACTTTAAACTAAGGGGAACTTTGCGGAGGTGAAAACCTTTG
CTGGGTTTTCTGTTCAATAAAGTTTTACTATGAATGACCCTGAAAAAAAAAAAAAAAAAAAAAA

Human HERPUD1 Protein sequence - var1 (public gi: 16507802) (SEQ ID NO: 61)
MESETEPEPVTLLVKSPNQRHRDLELSGDRGWSVGHLKAHLSRVYPERPRPEDQRLIYSGKLLLDHQCLR
DLLPKEKRHVLHLVCNVKSPSKMPEINAKVAESTEEPAGSNRGQYPEDSSSDGLRQREVLRNLSSPGWEN
ISRHHVGWFPFRPRPVQNFPNDGPPPDVVNQDPNNNLQEGTDPETEDPNHLPPDRDVLDGEQTSPSFMST
AWLVFKTFFASLLPEGPPAIAN

Human HERPUD1 Protein sequence - var2 (public gi: 10441911) (SEQ ID NO: 62)
MQYLAATAASGAFVPPPSAQEIPVVSAPAPAPIHNQFPAENQPANQNAAPQVVVNPGANQNLRMNAQGGP
IVEEDDEINRDWLDWTYSAATFSVFLSILYFYSSLSRFLMVMGATVVMYLHHVGWFPFRPRPVQNFPNDG
PPPDVVNQDPNNNLQEGTDPETEDPNHLPPDRDVLDGEQTSPSFMSTAWLVFKTFFASLLPEGPPAIAN

Human HERPUD1 Protein sequence - var3 (public gi: 3005723) (SEQ ID NO: 63)
GHLKAHLSRVYPERPRPEDQRLIYSGKLLLDHQCLRDLLPKEKRHVLHLVCNVKSPSKMPEINAKVAEST
EEPAGSNRGQYPEDSSSDGLRQREVLRNLSSPGWENISRPEAAQQAFQGLGPGFSGYTPYGWLQLSWFQQ
IYARQYYMQYLAATAASGAFVPPPSAQEIPVVSAPAPAPIHNQFPAENQPANQNAAPQVVVNPGANQNLR
MNAQGGPIVEEDDEINRDWLDWTYSAATFSVFLSILYFYSSLSRFLMVMGATVVMYLHHVGWFPFRPRPV
QNFPNDGPPPDVVNQDPNNNLQEGTDPETEDPNHLPPDRDVLDGEQTSPSFMSTAWLVFKTFFASLLPEG
PPAIAN

Human HERPUD1 Protein sequence - var4 (public gi: 7661870) (SEQ ID NO: 64)
MESETEPEPVTLLVKSPNQRHRDLELSGDRGWSVGHLKAHLSRVYPERPRPEDQRLIYSGKLLLDHQCLR
DLLPKQEKRHVLHLVCNVKSPSKMPEINAKVAESTEEPAGSNRGQYPEDSSSDGLRQREVLRNLSSPGWE
NISRPEAAQQAFQGLGPGFSGYTPYGWLQLSWFQQIYARQYYMQYLAATAASGAFVPPPSAQEIPVVSAP
APAPIHNQFPAENQPANQNAAPQVVVNPGANQNLRMNAQGGPIVEEDDEINRDWLDWTYSAATFSVFLSI
LYFYSSLSRFLMVMGATVVMYLHHVGWFPFRPRPVQNFPNDGPPPDVVNQDPNNNLQEGTDPETEDPNHL
PPDRDVLDGEQTSPSFMSTAWLVFKTFFASLLPEGPPAIAN

Rat HERPUD1 mRNA sequence (public gi: 16758961) (SEQ ID NO: 65)
AAGACACCAAGTGTCGTTGTGGGGTCGCAGACGGCTGCGTCGCCGCCCGTTCGGCATCCCTGAGCGCAGT
CGAGCCTCCAGCGCCGCAGACATGGAGCCCGAGCCACAGCCCGAGCCGGTCACGCTGCTGGTGAAGAGCC
CCAATCAGCGCCACCGCGACTTGGAGCTGAGTGGCGACCGCGGTTGGAGTGTGAGTCGCCTCAAGGCCCA
CCTGAGCCGAGTCTACCCCGAACGCCCGCGCCCAGAGGACCAGAGGTTAATTTATTCTGGGAAGCTGCTG
TTGGATCACCAATGTCTCCAAGACTTGCTTCCAAAGCAGGAAAAGCGACATGTTTTGCACCTCGTGTGCA

ATGTGAGGAGTCCCTCAAAAAAGCCAGAAGCCAGCACAAAGGGTGCTGAGTCCACAGAGCAGCCGGACAA
CACTAGTCAGGCACAGTATCCTGGGGATTCCTCAAGCGATGGCTTACGGGAAAGGGAAGTCCTTCGGAAC
CTTCCTCCCTCTGGATGGGAGAACGTCTCTAGGCCTGAAGCCGTCCAGCAGACTTTCCAAGGCCTCGGGC
CCGGCTTCTCTGGCTACACCACCTACGGGTGGCTGCAGCTCTCCTGGTTCCAGCAGATCTATGCAAGACA
GTACTACATGCAATACTTGGCTGCCACTGCTGCTTCAGGAGCTTTTGGCCCTACACCAAGTGCACAAGAA
ATACCTGTGGTCTCTACACCGGCTCCCGCCCCTATACACAACCAGTTTCCGGCAGAAAACCAGCCGGCCA
ATCAGAATGCAGCCGCTCAAGCGGTTGTTAATCCCGGAGCCAATCAGAACTTGCGGATGAATGCACAAGG
CGGCCCTCTGGTGGAAGAAGATGATGAGATAAACCGAGACTGGTTGGATTGGACCTACTCAGCAGCGACA
TTTTCCGTTTTCCTCAGCATTCTTTACTTCTACTCCTCCCTGAGCAGATTCCTCATGGTCATGGGCGCCA
CCGTAGTCATGTACCTGCACCACGTCGGGTGGTTTCCATTCAGACAGAGGCCAGTTCAGAACTTCCCAGA
TGACGGTCCCCCTCAGGAAGCTGCCAACCAGGACCCCAACAATAACCTCCAGGGAGGTTTGGACCCTGAA
ATGGAAGACCCCAACCGCCTCCCCGTAGGCCGTGAAGTGCTGGACCCTGAGCATACCAGCCCCTCGTTCA
TGAGCACAGCATGGCTAGTCTTCAAGACTTTCTTTGCCTCTCTTCTTCCGGAAGGCCCACCAGCCCTAGC
AAACTGATGGCCCCTGTGCTCTGTTGCTGGAGGCTTTCACAGCTTGGACTGGATCGTCCCCTGGCGTGGA
CTCGAGAGAGTCATTGAAAACCCACAGGATGACGATGTGCTTCTGTGCCAAGCAAAAGCACAAACTAAGA
CATGAAGCCGTGGTACAAACTGAACAGGGCCCCTCATGTCGTTATTCTGAAGAGCTTTAATGTATACTGT
ATGTAGTCTCATAGGCACTGTAAACAGAAGGCCCAGGGTCGCATGTTCTGCCTGAGCACCTCCCCAGACG
TGTGTGCATGTGTGCCGTACATGGAAGTCATAGACGTGTGTGCATGTGTGCTCTACATGGAAGTCATAGA
TGCAGAAACGGTTCTGCTGGTTCGATTTGATTCCTGTTGGAATGTTGCAATTACACTAAGTGTACTACTT
TATATAATCAGTGACTTGCTAGACATGTTAGCAGGACTTTTCTAGGAGAGACTTATTGTATCATTGCTTT
TTAAAACGCAGTGCTTACTTACTGAGGGCGGCGACTTGGCACAGGTAAAGCCTTTGCCGGGTTTTCTGTT
CAATAAAGTTTTGCTATGAACGACAAAAAAAAAAAAA

Rat HERPUD1 Protein sequence (public gi: 16758962) (SEQ ID NO: 66)

MEPEPQPEPVTLLVKSPNQRHRDLELSGDRGWSVSRLKAHLSRVYPERPRPEDQRLIYSGKLLLDHQCLQ
DLLPKQEKRHVLHLVCNVRSPSKKPEASTKGAESTEQPDNTSQAQYPGDSSSDGLRREVLRNLPPSGWE
NVSRPEAVQQTFQGLGPGFSGYTTYGWLQLSWFQQIYARQYYMQYLAATAASGAFGPTPSAQEIPVVSTP
APAPIHNQFPAENQPANQNAAAQAVVNPGANQNLRMNAQGGPLVEEDDEINRDWLDWTYSAATFSVFLSI
LYFYSSLSRFLMVMGATVVMYLHHVGWFPFRQRPVQNFPDDGPPQEAANQDPNNNLQGGLDPEMEDPNRL
PVGREVLDPEHTSPSFMSTAWLVFKTFFASLLPEGPPALAN

Mouse HERPUD1 mRNA sequence (public gi: 11612514) (SEQ ID NO: 67)

AAAGACGCCAAGTGTCGTTGTGTGGTCTCAGACGGCTGCGTCGCCGCCCGTTCGGCATCCCTGAGCGCAG
TCGAGCCGCCAGCGACGCAGACATGGAGCCCGAGCCACAGCCCGAGCCGGTCACGCTGCTGGTGAAGAGT
CCCAATCAGCGCCACCGCGACTTGGAGCTGAGTGGCGACCGCAGTTGGAGTGTGAGTCGCCTCAAGGCCC
ACCTGAGCCGAGTCTACCCCGAGCGCCCGCGTCCAGAGGACCAGAGGTTAATTTATTCTGGGAAGCTGCT
GTTGGATCACCAGTGTCTCCAAGATTTGCTTCCAAAGCAGGAAAAGCGACATGTTTTGCACCTTGTGTGC
AATGTGAAGAATCCCTCCAAAATGCCAGAAACCAGCACAAAGGGTGCTGAATCCACAGAGCAGCCGGACA
ACTCTAATCAGACACAGCATCCTGGGGACTCCTCAAGTGATGGTTTACGGCAAAGAGAAGTTCTTCGGAA
CCTTTCTCCCTCCGGATGGGAGAACATCTCTAGGCCTGAGGCTGTCCAGCAGACTTTCCAAGGCCTGGGG
CCTGGCTTCTCTGGCTACACAACGTATGGGTGGCTGCAGCTCTCCTGGTTCCAGCAGATCTATGCAAGGC
AGTACTACATGCAATACTTAGCTGCCACTGCTGCATCAGGAACTTTTGTCCCGACACCAAGTGCACAAGA
GATACCTGTGGTCTCTACACCTGCTCCGGCTCCTATACACAACCAGTTTCCGGCAGAAAACCAGCCGGCC
AATCAGAATGCAGCTGCTCAAGCGGTTGTCAATCCCGGAGCCAATCAGAACTTGCGGATGAATGCACAAG
GTGGCCCCCTGGTGGAGGAAGATGATGAGATAAACCGAGACTGGTTGGATTGGACCTATTCCGCAGCGAC
GTTTTCTGTTTTCCTCAGCATCCTTTACTTCTACTCCTCGCTGAGCAGATTTCTCATGGTCATGGGTGCC
ACTGTAGTCATGTACCTGCACCACGTCGGGTGGTTTCCGTTCAGACAGAGGCCAGTTCAGAACTTCCCGG
ATGATGGTGGTCCTCGAGATGCTGCCAACCAGGACCCCAACAATAACCTCCAGGGAGGTATGGACCCAGA
AATGGAAGACCCCAACCGCCTCCCCCCAGACCGCGAAGTGCTGGACCCTGAGCACACCAGCCCCTCGTTT
ATGAGCACAGCATGGCTAGTCTTCAAGACTTTCTTTGCCTCTCTTCTTCCAGAAGGCCCACCAGCCCTAG
CCAACTGATGGCCCTTGTGCTCTGTCGCTGGTGGCTTTGACAGCTCGGACTGGATCGTCTGGCTCCGGCT
CCTTTTCCTCCCCTGGCGTGGACTCGACAGAGTCATTGAAAACCCACAGGATGACATGTGCTTCTGTGCC
AAGCAAAAGCACAAACTAAGACATGAAGCCGTGGTACAAACTGAACAGGGCCCCTCATGTCGTTATTCTG
AAGAGCTTTAATGTATACTGTATGTAGTTTCATAGGCACTGTAAGCAGAAGGCCCAGGGTCGCATGTTCT
GCCTGAGCACCTCCCCAGATGTGTGTGCATGTGTGCTGTACATGGAAGTCATAGACGTGTGTGCATGTGT
GCTCTACATGGAAGTCATAGATGCAGAAACGGTTCTGCTGGTTCGATTTGATTCCTGTTGGAATGTTCAA
ATTACACTAAGTGTACTACTTTATATAATCAGTGAATTGCTAGACATGTTAGCAGGACTTTTCTAGGAGA
GACTTATGTATAATTGCTTTTTAAAATGCAGTGCTTTCCTTTAAACCGAGGGTGGCGACTTGGCAGAGGT
AAAACCTTTGCCGAGTTTTCTGTTCAATAAAGTTTTGCTATGAATGACTGT

Mouse HERPUD1 Protein sequence (public gi: 11612515) (SEQ ID NO: 68)

MEPEPQPEPVTLLVKSPNQRHRDLELSGDRSWSVSRLKAHLSRVYPERPRPEDQRLIYSGKLLLDHQCLQ
DLLPKQEKRHVLHLVCNVKNPSKMPETSTKGAESTEQPDNSNQTQHPGDSSSDGLRQREVLRNLSPSGWE
NISRPEAVQQTFQGLGPGFSGYTTYGWLQLSWFQQIYARQYYMQYLAATAASGTFVPTPSAQEIPVVSTP
APAPIHNQFPAENQPANQNAAAQAVVNPGANQNLRMNAQGGPLVEEDDEINRDWLDWTYSAATFSVFLSI
LYFYSSLSRFLMVMGATVVMYLHHVGWFPFRQRPVQNFPDDGGPRDAANQDPNNNLQGGMDPEMEDPNRL
PPDREVLDPEHTSPSFMSTAWLVFKTFFASLLPEGPPALAN

- *Please replace the paragraph spanning pages 101-102, beginning at line 31 on page 101 and ending at line 2 on page 102, with the following text:*
  - Cell culture and transfection:

HeLa SS6 were kindly provided by Dr. Thomas Tuschl (the laboratory of RNA Molecular Biology, Rockefeller University, New York, New York). Cells were grown in Dulbecco's modified Eagle's medium (DMEM) supplemented with 10% heat-inactivated fetal calf serum and 100 U/ml penicillin and 100 μg/ml streptomycin. For transfections, HeLa SS6 cells were grown to 50% confluency in DMEM containing 10% FCS without antibiotics. Cells were then transfected with the relevant double-stranded siRNA (50-100nM) (HERPUD1: 5'-GGGAAGUUCUUCGGAACCUdTdT-3' (SEQ ID NO: 69) and 5'-dTdTCCCUUCAAGAAGCCUUGGA-5' (SEQ ID NO: 70)) using lipofectamin 2000 (Invitrogen, Paisley, UK). A day following the initial transfection cells were split 1:3 in complete medium and co-transfected 24 hours later with HIV-1NLenv1 (2 μg per 6-well) (Schubert et al., J. Virol. 72:2280-88 (1998)) and a second portion of double-stranded siRNA.

- *Please replace the text on page 105, lines 1-21, with the following text:*

Construction of shRNA retroviral vectors- hPOSH scrambled oligonucleotide (5'-CACACACTGCCGTCAACTGTTCAAGAGACAGTTGACGGCAGTGTGTGTTT TTT–3' (SEQ ID NO: 44); and 5'-AATTAAAAAACACACACTGCCGTCAACTGTCTCTTGAACA GTTGACGGCAGTGTGTGGGCC– 3' (SEQ ID NO: 45)) were annealed and cloned into the ApaI-EcoRI digested pSilencer 1.0-U6 (Ambion, Inc.) to generate pSIL-scrambled. Subsequently, the U6-promoter and RNAi sequences were digested with BamHI, and blunted by end filling. The insert was cloned into the OliI site in the retroviral vector, pMSCVhyg (BD Biosciences Clontech), generating pMSCVhyg-U6-scrambled. The hPOSH oligonucleotide encoding RNAi against hPOSH (5'-AACAGAGGCCTTGGAAACCTGGAAGCTTGCAGGTTTCCAAGGCCTCTGTT-3' (SEQ ID NO: 46); and

5'-GATCAACAGAGGCCTTGGAAACCTGCAAGCTTCCAGGTTTCCAAGGCCTCTGTT–3' (SEQ ID NO: 47)) were annealed and cloned into the BamHI-EcoRV site of pLIT-U6, generating pLIT-U6 hPOSH-230. The pLIT-U6 is an shRNA vector containing the human U6 promoter (amplified by PCR from human genomic DNA with the primers, 5'-GGCCCACTAGTCAAGGTCGGGCAGGAAGA-3' (SEQ ID NO: 48) and 5'-GCCGAATTCAAAAAGGATCCGGCGATATCCGGTGTTTCGTCCTTTCCA-3' (SEQ ID NO: 49)) cloned into pLITMUS38 (New England Biolabs, Inc.) digested with SpeI-EcoRI. Subsequently, the U6 promoter-hPOSH shRNA (pLIT-U6 hPOSH-230 digested with SnaBI and PvuI) was cloned into the OliI site of pMSCVhyg (BD Biosciences Clontech) generating pMSCVhyg U6-hPOSH-230.